

SNL enhancement status

Commercial Break

- “Traditional” controls group is working very closely with the LCLS, whose software component is now the largest.
- SLAC, too, will become a Basic Energy Science laboratory, with PEP-II scheduled for shutdown in 2008 (which might mean four different dates)

Back to SNL

- The enhancements described here can be implemented within 3.14, they needn't wait for EPICS version 4.
- This is a precursor to IOC redundancy
- The full exposition of ideas has not changed from the spring 2006 presentation at SLAC by Matthias and me.

Working Plan

SLAC:

- Debugging:
 - Variable Read/ Write
 - Add New pointer akin to “pvar”
 - Force state transition
 - Add ‘hidden piece’ in each when clause
 - Single state stepping
 - Add ‘hidden piece’ in each when clause
- SEQ:
 - Make new functionality available through command line interface
- SNL Manager
 - Integrate SEQ-Library
 - Participate in Load/ Start/ Stop implementation

DESY:

- Design and develop network layer
 - Access to SEQ library likewise the command line interface
 - Participate in Load/ Start/ Stop implementation
- Link Interface for redundant IOC's
 - Exchange Load/ Start/ Stop commands between SNL Managers
 - Exchange values and state-set ID's between SNL Managers
- Interface to Redundancy Executive

Some little progress

- First look at adding access to internals
 - File scoped, non-escaped variables only
 - API needs definition
 - Iterator function needs definition
- Single stepping, “goto” state
 - Needs definition, should not be hard
 - Behavior for multiple state sets (“global” modes)
 - Names of generated controlling variables
 - Access API will provide control

Idea from BTEV

- Michael Haney – GME
- They use a graphical interface to design state machines (not EPICS, not SNL)
- This same interface hooks in at runtime providing the possibility of more intuitive debugging

New Ideas from DESY

- Appeared nicely in a WIKI
- Very interesting ideas for subroutines and spawning new threads.
- As they suggest, this should be a separate development.
 - It is farther removed from a pure state machine than what we have.
 - For major changes, it is probably time to spawn another thread!